ABSTRACT

A single transmitter transmits K communication bursts in a shared spectrum in a time slot of a time division duplex communication system. The system associated with N midamble sequences. Each burst has an associated midamble sequence. A receiver receives a vector corresponding to the transmitted midamble sequences of the K communication bursts. A matrix having N identical right circulant matrix blocks is constructed based in part on the known N midamble sequences. The wireless channel between the transmitter and receiver is estimated based on in part one of the N blocks and the received vector.

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